

CLAIMS

1. A polyglycolic acid resin filament comprising a polyglycolic acid resin having a residual monomer content of below 0.5 wt.% and exhibiting a tensile strength of at least 750 MPa and a knot strength of
5 at least 600 MPa.
2. A filament according to claim 1, exhibiting a knot strength of at least 650 MPa.
- 10 3. A filament according to claim 1 or 2, exhibiting a tensile strength of at least 800 MPa.
- 15 4. A filament according to any of claims 1 - 3, comprising a polyglycolic acid resin having a residual monomer content of below 0.2 wt.%
5. A filament according to any of claims 1 - 4, exhibiting a tensile elongation at break of 10 - 50 %.
- 20 6. A filament according to claim 5, exhibiting a tensile elongation at break of 15 - 40 %.
7. A filament according to claim 5, exhibiting a tensile elongation at break in excess of 20 % and below 30 %.
- 25 8. A filament according to any of claims 1 - 7, exhibiting a tensile modulus of elasticity of at least 12 GPa.

9. A process for producing a polyglycolic acid resin filament,
comprising: melt-spinning a polyglycolic acid resin having a residual
monomer content of below 0.5 wt.%, quenching the spun resin in a
5 liquid bath of at most 10 °C and stretching the spun resin in a liquid
bath of 60 - 83 °C.

10. A process for producing a filament according to claim 9, wherein a
second-step stretching is performed after said stretching at a
10 temperature higher than the temperature of said stretching and at a
stretching ratio of at most 1.8 times.

11. A process for producing a filament according to claim 9 or 10,
wherein a second-step stretching is performed after said stretching at a
15 temperature which is higher than the temperature of said stretching by
at most ca.40 °C.

12. A process for producing a filament according to claim 9 or 10,
wherein a second-step stretching is performed after said stretching at a
20 temperature which is higher than the temperature of said stretching by
at most ca.12 °C.

13. A process for producing a polyglycolic acid resin filament,
comprising: melt-spinning a polyglycolic acid resin, quenching the spun
25 resin in a liquid bath of at most 10 °C, then subjecting the spun resin to
a first-step stretching in a liquid bath at a temperature of 60 - 83 °C,
and then subjecting the spun resin to a second-step stretching at a

temperature higher than the temperature of the first-step stretching by at most 12 °C and at a stretching ratio of at most 1.8 times.

14. A process for producing a filament according to any of claims 9 -
- 5 13, wherein a polyglycolic acid resin having a residual monomer content of below 0.2 wt.% is subjected to the melt-spinning.
15. A fishing line comprising a filament according to any of claims 1 -
- 8.